

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for providing reliable transmission Quality of Service (QoS) in a communication network, the method comprising:

A. ~~creating a local bearer network resource manager sending an establish connection request to a peer bearer network resource manager for requesting to create a QoS connection between the local~~ bearer network resource managers ~~manager in the communication network and the peer bearer network resource manager;~~

B. ~~exchanging and negotiating QoS information, which the communication network provides during data transmission among the local~~ bearer network resource managers ~~manager receiving an establish connection response from the peer bearer network resource manager so as to create through the QoS connection; and~~

C. ~~according to the local bearer network resource manager transmitting QoS information [[sent]] by a respective bearer network resource manager of to the peer bearer network resource manager through the QoS connection the bearer network resource managers, wherein the QoS information is provided to [[a]] connection [[node]] nodes connected to the respective local~~ bearer network resource manager ~~and the peer bearer network resource manager respectively for providing corresponding resource.~~

2. (Currently Amended) The method according to claim 1, wherein the local bearer network resource manager and the peer bearer network resource manager are ~~[[is]]~~ located in a bearer control layer of a multiservice network.

3. (Canceled)

4. (Currently Amended) The method according to claim ~~[[3]]~~ 1, further comprising ~~before step A2~~:

the peer bearer network resource manager judging whether an identity of the local bearer network resource manager is valid, and if valid, ~~executing step A2~~; ~~otherwise, returning a message of unable to create the QoS connection~~ sending the establish connection response to the local bearer network resource manager.

5. (Currently Amended) The method according to claim ~~[[3]]~~ 1, wherein information carried in the establish connection request comprises identification information and authentication information of the local bearer network resource manager initiating the establish connection request.

6. (Currently Amended) The method according to claim ~~[[3]]~~ 1, further comprising ~~after step A2~~:

A3. the local bearer network resource manager periodically sending a handshake message to the peer bearer network resource manager, and determining

a connection status according to a handshake response returned by the peer bearer network resource manager.

7. (Currently Amended) The method according to claim 6, wherein step A3 comprises:

A31. creating a local Keep Active (KA) timer at the local bearer network resource manager, and creating a peer Keep Active (KA) ~~[[time]]~~ timer at the peer bearer network resource manager;

A32. when the local KA timer is timeout, the local bearer network resource manager adding 1 to timeout times of the local KA timer and sending a further handshake message to the peer bearer network resource manager;

A33. after receiving the further handshake message, the peer bearer network resource manager restarting the peer KA timer and returning a handshake response to the local bearer network resource manager; and

A34. the local bearer network resource manager determining the connection status according to the timeout times of the local KA timer, the peer bearer network resource manager determining the connection status according to whether the peer KA timer is timeout.

8. (Currently Amended) The method according to claim 6, wherein ~~[[the]]~~ information carried in the handshake message ~~includes~~ comprises connection ID information and connection resource state information.

9. (Canceled)

10. (Currently Amended) The method according to claim 1, further comprising ~~after step B:~~

~~[[a]] the peer~~ bearer network resource manager that finally receives the QoS information managing and controlling resources of ~~[[a]] the connection [[node]] nodes under its control~~ connected to the peer bearer network resource manager according to the received QoS information.

11. (Currently Amended) The method according to claim 1, wherein step B comprises further comprising:

~~[[B1. a]] the~~ local bearer network resource manager sending a QoS resource control message that carries the QoS information to ~~connection nodes under its control as well as to a~~ the peer bearer network resource manager. ~~[[:]]~~

~~B2. the peer bearer network resource manager sending a QoS resource control policy to the connection node according to the QoS resource control message;~~

~~B3. after receiving the QoS resource control policy, the connection node returning a response of the QoS resource control policy to the peer bearer network resource manager; and~~

~~B4. the peer bearer network resource manager returning a response of the QoS resource control message to the local bearer network resource manager.~~

12. (Currently Amended) The method according to claim 11, wherein the QoS resource control message ~~in step B1 includes~~ comprises QoS resource request information, which ~~carries~~ comprises connection identification, stream information, QoS parameters or a stream descriptor.

13. (Currently Amended) The method according to claim 11, wherein the QoS resource control message ~~in step B1 includes~~ comprises a QoS resource release request, which ~~carries~~ comprises a connection identifier or a reason code.

14. (Currently Amended) The method according to claim 11, wherein the QoS resource control message ~~in step B1 includes~~ comprises a QoS resource modify request, which ~~carries~~ comprises a connection identifier and modified parameter information corresponding to the QoS connection.

15. (Currently Amended) The method according to claim 11, wherein the QoS resource control message ~~in step B1 includes~~ comprises a connection status inquiry message, and ~~wherein step B4~~ the method further comprises:

the peer bearer network resource manager sending a QoS resource control policy to the connection nodes, which is connected to the peer bearer network resource manager according to the QoS resource control message;

the peer bearer network resource manager receiving a response of the QoS resource control policy from the connection nodes connected to the peer bearer network resource manager;

~~after receiving the response from the connection node,~~ the peer bearer network resource manager checking resource consistency of the ~~created~~ QoS connection; and

the peer bearer network resource manager returning a response of the connection status inquiry message to the local bearer network resource manager ~~according to a result of the checking step.~~

16. (Previously presented) The method according to claim 15, wherein the information carried in the response of the connection status inquiry message includes any one or more of the following: a connection identifier, stream information, QoS parameters, a stream descriptor, a label stack, a path maximum transmission unit, and a bearer network resource manager stack.

17.-19. (Canceled)

20. (Currently Amended) The method according to claim 1, wherein the ~~respective~~ local bearer network resource manager and the peer bearer network resource manager ~~are includes~~ a bandwidth broker, a call agent, or a connection manager.

21. (New) A communication network comprising:
a first bearer network resource manager; and

a second bearer network resource manager in communication with the first bearer network resource manager;

wherein the first bearer network resource manager is configured to:

send an establish connection request to the second bearer network resource manager for requesting to create a QoS connection between the first bearer network resource manager and the second bearer network resource manager;

receive an establish connection response from the second bearer network resource manager so as to create the QoS connection; and

transmit QoS information through the QoS connection to the second bearer network resource manager;

and wherein the first bearer network resource manager and the second bearer network resource manager are configured to control and manage resources according to the QoS information.

22. (New) The communication network according to claim 21, wherein the first bearer network resource manager is further configured to periodically send a handshake message to the second bearer network resource manager, and to determine a connection status according to a handshake response returned by the second bearer network resource manager.

23. (New) The communication network according to claim 21, wherein the second bearer network resource manager is configured to judge whether an identity

of the first bearer network resource manager is valid, and if valid, send the establish connection response to the first bearer network resource manager.

24. (New) The communication network according to claim 22, wherein the first bearer network resource manager is configured to create a first Keep Active (KA) timer, add 1 to timeout times of the first KA timer and send a further handshake message to the second bearer network resource manager when the first KA timer is timeout, and to determine a connection status according to the timeout times of the first KA timer; and

the second bearer network resource manager is configured to create a second Keep Active (KA) timer, restart the second KA timer and return a handshake response to the first bearer network resource manager after receiving the further handshake message, and to determine a connection status according to whether the second KA timer is timeout.

25. (New) A method implemented by a bearer network resource manager in a bearer network, the method comprising:

sending an establish connection request for requesting to create a QoS connection to a peer bearer network resource manager;

receiving an establish connection response from the peer bearer network resource manager so as to create the QoS connection;

transmitting QoS information through the QoS connection to the peer bearer network resource manager; and

controlling and managing a resource in the bearer network according to the QoS information.

26. (New) The method according to claim 25, further comprising:
periodically sending a handshake message to the peer bearer network resource manager; and
determining a connection status according to a handshake response returned by the peer bearer network resource manager.

27. (New) The method according to claim 26, further comprising:
creating a local Keep Active (KA) timer, adding 1 to timeout times of the local KA timer when the local KA timer is timeout, sending a further handshake message to the peer bearer network resource manager, and determining a connection status according to the timeout times of the local KA timer.